
Activity 1.3.4 Measurement Lab – Skimmer

Introduction

Throughout history many systems of measurement have been devised and then thrown out as more precise and more logical systems have come along. While most of the world has adopted the metric system, the United States still clings to the Standard system, also called the customary system. Which system are you more comfortable with? Why do you think that is true? In this measurement lab, you will have a chance to perfect your precision measuring skills in the system that you are less comfortable with. STEM professionals, such as scientists, technologists, mathematicians, and engineers, must be able to measure accurately. It is very important that you pay attention to the units that you are using.

Equipment

- GTT notebook
- Pencil
- Metric or English ruler
- 60# Cardstock, Tagboard, file folder, or cereal box
- Glue
- Tape
- Paper fastener (optional)
- Lg. rubber band (optional)

Procedure

In this activity you will create a skimmer that will slide across the floor with ease if your measurements are accurate and your workmanship is exceptional.

1. Neatly and accurately use the plan sheet and measuring tool to draw your skimmer main body, air scoop, and two (2) fins onto the material that you will use to make your skimmer.
2. Carefully cut out your skimmer parts. Cut only on the solid lines. The dotted lines are where you will score and fold.
3. Use your ruler to draw the dotted lines on your cardboard air scoop and main body, and then fold on these lines to create a 90° angle.

4. Glue the fins to the $\frac{1}{2}$ in. flap on the main body. Make sure that the angled edge faces the front of your skimmer. Glue or tape the main body back to the fins at an angle as shown in the orthographic drawing.
5. Glue the flaps of the air scoop to the inside edges of the main body with the narrow end flush with the front of the main body as shown in the orthographic drawing.
6. After all glue has dried, throw your skimmer along the floor and see how smoothly it glides.
7. You may want to put a paper fastener behind the air scoop and use a rubber band to propel your skimmer across the floor.

Conclusion

1. How did completing the skimmer using the measuring system you are less comfortable with help to improve your skills?

Gave me a chance to stretch myself.

2. How far did your skimmer travel?

31ft. May have gone farther with modifications or weights.

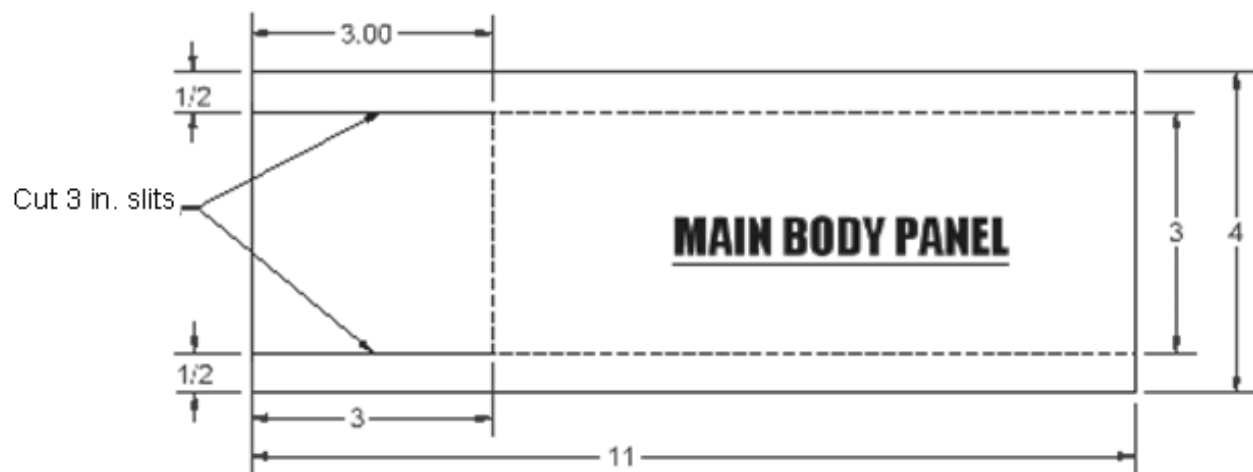
3. Explain why your skimmer was more or less successful than your classmates.

Because I am awesome!!!! Followed directions better and made a better plane.

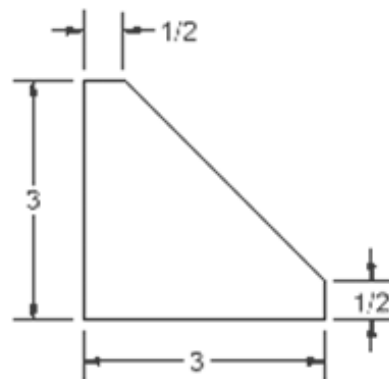
Directions: Use the measurements from this sheet to lay out your skimmer on tagboard, a file folder, or a cereal box. The drawing below is not to scale. The solid lines are cutting lines; the dotted lines represent scoring and folding lines. Quality work and precise measurements will make your skimmer slide easily across a smooth floor.

The material that you use should fold easily and hold its shape. Decorate your air racer before assembling.

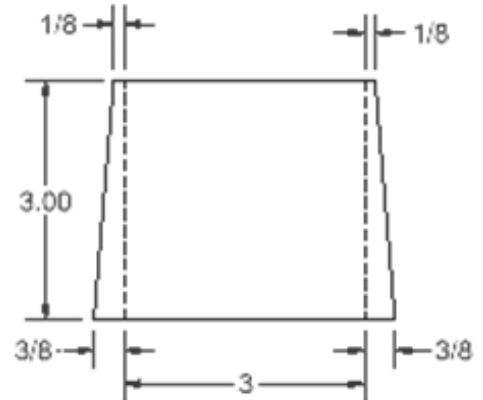
Skimmer Plans (all measurements in inches)



DOTTED LINES ARE SCORE / FOLD LINES

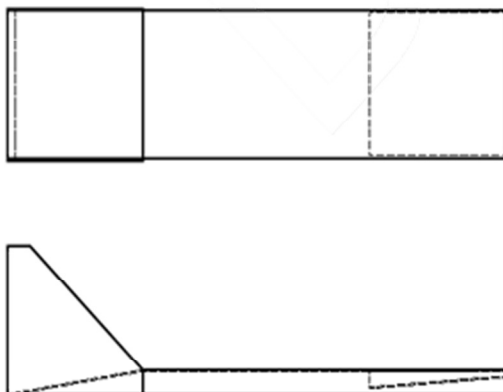


FIN (2 required)



AIR SCOOP

Assembled Orthographic Drawing of Skimmer



Assembled Isometric Drawing of Skimmer

